

## **REMARKS**

In view of the above amendments and the following remarks, reconsideration and further examination are respectfully requested.

### **I. Amendments to the Specification and Abstract**

The specification and abstract have been reviewed and revised to improve their English grammar. No new matter has been added.

### **II. Amendments to the Claims**

Claim 3 has been cancelled without prejudice or disclaimer of the subject matter contained therein.

Further, independent claims 1 and 6 have been amended to clarify features of the invention recited therein and to further distinguish the present invention from the references relied upon in the rejections discussed below.

It is also noted that claims 1, 2 and 4-7 have been amended to make a number of editorial revisions thereto. These editorial revisions have been made to place the claims in better U.S. form. Further, these editorial revisions have not been made to narrow the scope of protection of the claims, or to address issues related to patentability, and therefore, these amendments should not be construed as limiting the scope of equivalents of the claimed features offered by the Doctrine of Equivalents.

### III. 35 U.S.C. § 103(a) Rejections

Claims 1-7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over various combinations of Bauer et al. (U.S. 6,420,946), Penunuri et al. (U.S. 5,638,036), Plesski et al. (U.S. 5,682,126) and Bauer et al. (WO 03/081773). These rejections are believed clearly inapplicable to amended independent claims 1 and 6 and claims 2,4, 5 and 7 that depend therefrom for the following reasons.

Amended independent claim 1 recites an inter-digital transducer (IDT) formed of two electrodes including a plurality of electrode fingers, wherein the IDT includes a gradation region that is located at opposing ends thereof. Further, claim 1 recites that the gradation region includes electrode fingers (of the plurality of electrode fingers) having an electrode finger pitch that gradually changes. In addition, claim 1 recites that at each opposing end of the IDT and within the gradation region, the electrode finger pitch of 5 to 30 electrode fingers is different from the electrode finger pitch of electrode fingers located near a center of the IDT.

The recitation of gradually changing the electrode finger pitch, as stated in claim 1, is explained in the specification. Specifically, the specification identifies that the electrode finger pitch is changed by changing a dimension (e.g., d1) between neighboring electrode fingers, such that the width of the electrode fingers remains constant (see Figs. 1 and 2 and first full paragraph on page 8 of the previously submitted specification). Accordingly, in the context of the specification, the electrode finger pitch is varied by changing the distance (e.g., d1) between adjacent electrode fingers without changing the width of the electrode fingers. This reference to specific portions of the specification is provided only for illustrative purposes, and is not

intended to otherwise limit the scope of the claims to any particular embodiment.

Initially, please note that the above-described 35 U.S.C. § 103(a) rejection acknowledges that Penunuri, Plesski and Bauer '773 fail to disclose or suggest the features of the electrode finger pitch of 5 to 30 of the electrode fingers in the gradation region, as recited in previously presented claim 3. In light of the above, the present rejection relies on Bauer '946 for teaching the above-mentioned features that are admittedly lacking from Penunuri, Plesski and Bauer '773. However, in view of the above-identified amendments to claim 1, which clarify that the electrode finger pitch of 5 to 30 electrode fingers is different from the electrode finger pitch of the electrode fingers located near the center of the IDT, it is submitted that Bauer '946 fails to disclose or suggest the above-mentioned distinguishing features now required by claim 1.

Rather, Bauer '946 merely teaches that the electrode pitch is changed by changing a width of the electrode fingers (see Figs. 1 and 4, and col. 3, lines 8-15). Additionally, Bauer '946 teaches that a junction region is formed by 5 to 8 fingers at the ends of the two (both) surface wave structures (see col. 3, lines 8-15).

Thus, in view of the above, it is clear that Bauer '946 teaches that the electrode pitch is changed by changing the width of the electrode fingers, but fails to disclose or suggest that electrode finger pitch is varied by changing the distance (e.g., d1) between adjacent electrode fingers without changing the width of the electrode fingers, as required by claim 1.

Furthermore, in view of the above, it is evident that Bauer '946 only requires 5 to 8 fingers at the ends of two surface wave structures, and fails to disclose or suggest that at each opposing end of the IDT and within the gradation region, the electrode finger pitch of 5 to 30 electrode fingers is different from the electrode finger pitch of electrode fingers located near a

center of the IDT, as recited in claim 1.

More specifically, as a result of Bauer '946 teaching that 5 to 8 fingers are at the ends of both wave structures, one wave structure must include half of the 5 to 8 fingers (i.e., 2 to 4 fingers). Therefore, because Bauer '946 requires only 2 to 4 fingers at the ends of a single wave structure, Bauer '946 fails to disclose or suggest that at each opposing end of the IDT and within the gradation region, the electrode finger pitch of 5 to 30 electrode fingers is different from the electrode finger pitch of electrode fingers located near a center of the IDT, as recited in claim 1.

Regarding the “junction region” as described in Bauer '946, which was equated with the claimed “gradation region,” Applicants note that the “junction region” is actually a portion where the two wave structures connect. Whereas, the “gradation region” is a portion where the electrode pitch gradually changes within the single IDT.

Therefore, because of the above-mentioned distinctions it is believed clear that claim 1 and claims 2, 4 and 5 that depend therefrom would not have been obvious or result from any combination of Bauer '946, Penunuri, Plesski and Bauer '773.

Furthermore, there is no disclosure or suggestion in Bauer '946, Penunuri, Plesski and/or Bauer '773 or elsewhere in the prior art of record which would have caused a person of ordinary skill in the art to modify Bauer '946, Penunuri, Plesski and/or Bauer '773 to obtain the invention of independent claim 1. Accordingly, it is respectfully submitted that independent claim 1 and claims 2, 4 and 5 that depend therefrom are clearly allowable over the prior art of record.

Amended independent claim 6 is directed to a surface acoustic wave filter and recites features that correspond to the above-mentioned distinguishing features of independent claim 1. Thus, for the same reasons discussed above, it is respectfully submitted that claim 6 and claim 7 that depends therefrom are allowable over Bauer '946, Penunuri, Plesski and Bauer '773.

#### **IV. Conclusion**

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance and an early notification thereof is earnestly requested. The Examiner is invited to contact the undersigned by telephone to resolve any remaining issues.

Respectfully submitted,

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